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Massachusetts 2014 Air Monitoring Network Plan

Response to Comments

8/28/14

MassDEP operates a network of 27 ambient air quality monitoring stations at locations across the state as part of a comprehensive program to provide information about air quality to the public and to determine compliance with National Ambient Air Quality Standards (NAAQS). Each year, MassDEP is required to submit to the U.S. Environmental Protection Agency (EPA) an Air Monitoring Network Plan in accordance with Title 40 CFR Part 58.10. On June 13, 2014, MassDEP published a draft 2014 Network Plan for a 30-day public comment period. MassDEP received comments from the U.S. Environmental Protection Agency Region 1 (EPA) and the Sierra Club (SC) on the draft Network Plan. MassDEP has summarized and responded to these comments below.

EPA's Comments:

1. Comment: On page 5, "MassDEP operates 15 ozone monitors at the locations listed below..." There are 18 sites listed, not including Aquinnah.

Response: MassDEP has corrected this sentence by changing "15" to "17" (MassDEP now operates 17 ozone monitors rather than 18 since MassDEP closed the Amherst ozone monitor in June 2014).

2. Comment: On page 5, "MassDEP has decided not to close the Boston - Long Island ozone monitor as planned in the 2013 Network Plan. Instead, MassDEP plans to close the Milton - Blue Hill ozone monitoring station after the 2014 ozone season because the Boston - Long Island and the new Brockton - Buckley Playground ozone monitors are more representative of population exposure." EPA's review of the preliminary data for 2014 indicates the Milton - Blue Hill site can measure ozone concentrations up to 10 ppb higher than Boston - Long Island and up to 7 ppb higher than Brockton on the highest days. Considering that the Boston - Long Island monitor is located on an island in the middle of Boston Harbor that is not accessible to the

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public, it is not conclusive that it is more representative of population exposure than the Milton - Blue Hill monitor. For this reason, and in consideration of the initial challenge in establishing a monitor at Blue Hill, EPA believes more ozone data should be collected in Brockton before the decision to close down Milton - Blue Hill is made.

Response: MassDEP will continue to operate the Milton – Blue Hill ozone monitor through the 2015 ozone season and then will evaluate whether to close the monitor in consultation with EPA.

3. Comment: Page 5. EPA does not have any specific concerns with the closure of the Amherst ozone monitor, but requests the opportunity to review replacement locations in advance of final selection by MassDEP. EPA first saw the Greenfield site on July 8th. We are eager to view any possible replacement ozone monitoring locations for Mount Greylock as they are being considered.

Response: MassDEP will work closely with EPA as MassDEP identifies a replacement location for the Mount Greylock ozone monitor and any other monitoring locations and will provide EPA the opportunity to review locations before establishing replacement monitoring stations.

4. Comment: Page 7, Sulfur Dioxide Network – Based on your current network, Massachusetts is not currently obligated to site any additional SO₂ monitors under the final SO₂ NAAQS rule but EPA recently initiated a process to refine the agency’s approach for implementing the SO₂ standard. On April 17, 2014, EPA proposed the “Data Requirements Rule for the 1-Hour Sulfur Dioxide Primary National Ambient Air Quality Standard (NAAQS)” detailing modeling and monitoring guidance for implementing the SO₂ standard. One outcome of that process may be a greater reliance on SO₂ monitoring in some circumstances. We have initiated a dialogue with you regarding whether there are any areas in Massachusetts where additional SO₂ monitoring may have some merit.

Response: MassDEP is reviewing EPA’s proposed Data Requirements Rule for the 1-hour SO₂ NAAQS and will work with EPA regarding any future monitoring requirements.

5. Comment: Page 8. Nitrogen Oxides Network - MassDEP discusses the near-roadway monitoring requirements that were established when EPA revised the NO₂ NAAQS in January 2010 and established a 1-hour NO₂ standard. Under this rule, there are requirements to operate two (2) near-road sites in the Boston-Cambridge-Newton, MA-NH metropolitan area, and one (1) site in each of the Providence-Warwick, RI-MA; Springfield, MA; and Worcester, MA metropolitan areas. The Providence, RI near-road site established by RI DEM has met the obligation in Providence-Warwick, RI-MA area, and your Von Hillern Street monitor in Boston is meeting the obligation for the first of the required near-road monitors in the Boston-Cambridge-Newton, MA-NH metropolitan area. As you know, we are pleased that the Von Hillern Street near-road monitoring location has begun operation and is reporting data to AQS.

In March 2013, EPA made revisions to the NO₂ Monitoring Requirements rule in response to feedback from the States encouraging a staggered deployment of these near-road monitors; with the first phase being deployed in January, 2014; a second phase by January, 2015; and a third phase by January, 2017. EPA received letters of support on this proposed rule from NACAA

and NESCAUM on November 19, 2012. Under this rule, a second near-road NO₂ site in the Boston area must be operating by January 1, 2015. (*See 40 CFR Part 58.13(c)(4).*)

On page 8 of this proposed plan, however, MassDEP states that “Due to the low NO₂ levels monitored at the Von Hillern Street near-road site, MassDEP currently is not planning a second near-road NO₂ monitoring site in the Boston area CBSA (MA/NH).”

As you know, the proposal to not install this second near-road NO₂ monitor was also made by the MassDEP in May, 2014 as part of EPA Region 1’s larger investment/disinvestment process. On June 24, 2014, EPA Regional Administrator Curt Spalding responded to MassDEP Commissioner Cash on that proposal. That letter read, in part, “Unless a second near-road site is installed, EPA will not be able to approve the state’s Annual Network Monitoring Plan.”

This requirement stems from 40 CFR 58.10(a)(5)(iv) which requires that a plan for the inclusion of that monitor be included in the Annual Network Plan that it is due to EPA by July 1, 2014. Failure to include this will result in this plan not meeting minimum federal monitoring requirements.

Moreover, as you know, EPA has already fully funded the build out of this second site. This money came from section 103 air grant money that EPA specifically set aside nationally to build out the near-road NO₂ network and cannot be used for any other purpose. EPA consulted with the states and appropriate state associations before that decision was made.

Lastly, the primary stated concern relative to not siting this monitor in this Plan is related to the “low NO₂” concentrations measured thus far at the Von Hillern Street site, just off the Southeast Expressway. It should be noted that while the data collected so far are not approaching the current NO₂ NAAQS, the site is measuring among the highest NO₂ concentrations in Massachusetts, and all of New England. Beyond this, the value of these second near-road NO₂ sites in the larger metropolitan areas has to be viewed in terms of all the pollutants that can be measured at these sites such as PM_{2.5}, CO, black carbon, and air toxics, as well as providing information regarding NO₂ on a different kind of fleet mix and/or roadway configuration compared to the first site. The EPA was clear in the 2010 rulemaking (75 FR 6507, published Feb. 9, 2010) on the rationale behind requiring second near-road sites in the nation’s largest CBSAs, stating that our largest CBSAs, such as Boston, “...are more likely to have a greater number of major roads across a potentially larger geographic area, and a corresponding increase in potential for exposure in different settings...” Further, the EPA stated “...that having multiple monitors in the largest CBSAs will allow better understanding of the differences that may exist between roads in the same CBSA due to fleet mix, congestion patterns, terrain, or geographic location...” in addition to differences in standard traffic volumes. This rationale was supported by a number of other federal and state government stakeholders, including NESCAUM. In addition, as you know, NAAQS do get revised over time, and the potential fact that your current site and similarly situated sites may not violate the NAAQS does not diminish the value of the near-road network being set up across the country. Until the introduction of near-road NO₂ monitoring requirements, there was very limited near-road pollutant data. These new near-road NO₂ sites are viewed as major assets to health researchers, atmospheric scientists, and the public. It is anticipated that these new near-road sites and the data they produce, which will be largely

multi-pollutant in nature, will lead to new studies about near-road health impacts. This will allow for greater understanding of pollutant behavior and dispersion in the near-road environment, which is an environment that millions of Americans spend time in every single day living, working, playing, or going to school.

EPA remains committed to working with you to establish a monitor to meet federal requirements, while also working with you ensure that you have adequate resources to meet this obligation. This includes identifying opportunities for cost savings throughout your air monitoring network many of which MassDEP is availing themselves of in this Annual Network Plan.

Response: During FY15 MassDEP will begin the process of identifying a suitable location for a second near-road monitoring station in the Boston CBSA that would provide additional information beyond the Von Hillern near-road site. MassDEP will coordinate with EPA on the schedule and the most efficient way to fulfill the near-road monitoring requirement.

6. Comment: Page 9. CO. We acknowledge the planned closure of Kenmore Square - Boston CO monitor, which is replaced by the soon to be required monitor at the Von Hillern site.

Response: MassDEP notes that while not required until January 2015, MassDEP began CO monitoring at the Boston - Von Hillern Street near-road site in June 2013.

7. Comment: Page 10. PM₁₀. We note and agree with the consolidation of the two Springfield air monitoring locations, as well as the closure of the Boston City Square location. These actions will save Massachusetts resources.

Response: MassDEP closed the Springfield - Republican site on July 1st and moved the PM₁₀ and PM₁₀ lead monitoring to Springfield - Liberty Street. Charlestown will be closed next January, provided that there are no significant issues with the newly reconfigured North End site.

8. Comment: Page 11. PM_{2.5} Network – On January 15, 2013, EPA revised the PM_{2.5} standard. In that rule, EPA also established that all continuous PM_{2.5} FEM monitors operating for more than 24 months should be used for comparison to the NAAQS unless a State specifically requests that the data be excluded under 40 CFR 58.11(e) and EPA approves that request. All of MassDEP's BAMs have a Federal Equivalent Method (FEM) designation. FEM monitors provide the hourly PM_{2.5} data that appears on MassDEP's *MassAir* website. We are pleased that MassDEP will use data from its FEM monitors for comparison to the NAAQS, with the exception of the new FEM monitors (Boston - Von Hillern Street, Brockton - Buckley Playground, and Greenfield - Veterans Field) since these monitors have less than 24 months of data, and the FEM monitor at Springfield - Liberty Street because this monitor continues to not have acceptable data comparability with the collocated FRM monitor. MassDEP will continue to use the Springfield FEM data for Air Quality Index reporting to the public and will evaluate ways to improve data comparability to the FRM data.

In our September 17, 2013 Network Plan Approval, we agreed that the Springfield monitor could be excluded, though we encouraged MassDEP to work to improve agreement between the FEM

and FRM at this location, through perhaps quicker collection and analysis of the PM filters. In addition, we encourage Massachusetts to appropriately code the 9 continuous FEM monitors as primary NAAQS compliance monitors, as appropriate, along with identifying appropriate co-located monitors in AQS. Fully utilized, these continuous FEMs can save resources for MassDEP.

Response: MassDEP will continue to work to improve agreement between the FEM and FRM PM_{2.5} monitors at Springfield - Liberty Street and will code the 9 FEM monitors as primary NAAQS compliance monitors.

9. Comment: Page 12, the graphic label should be updated to “2014 PM_{2.5} Monitoring Network”

Response: MassDEP has updated the graphic label.

10. Comment: Page 13. Photochemical Assessment Monitoring Stations – paragraph three states that MassDEP is considering not processing data for the Newburyport and Ware PAMS sites in 2015 to enable MassDEP to catch up on the data backlog. Please describe in detail exactly what is proposed in this regard. That said, if acceptable, we would expect Massachusetts would save resources.

Response: MassDEP specifically is considering suspending data collection at the Newburyport and Ware Type 3 sites and suspending carbonyl sampling at the Chicopee and Lynn Type 2 sites for the 2015 ozone season. MassDEP would collect these data for the 2016 ozone season.

11. Comment: Page 14. We note and acknowledge the following as your “**Summary of Network Changes.**” As noted in our comments above, we do have comments and/ or concerns with some of these proposed changes.

Response: MassDEP appreciates EPA’s comments and continuing partnership in air quality monitoring.

12. Comment: EPA believes that the Annual Network Plan could benefit from a one page description of every site in MassDEP’s air monitoring network.

Response: MassDEP will consider developing a one-page description of each monitoring station in future plans.

13. Comment: The Energy and Environmental Affairs website where the Annual Ambient Air Quality Monitoring Network Plan is posted has a “Monitoring Sites & Parameters Measured” chart listing all sites located within the network. There appear to be at least three errors noted on the chart regarding which parameters are measured at least these sites, Aquinnah – Wampanoag Tribal site, Boston – Long Island site, and the Milton – Blue Hills Observatory site. We urge you to review and update this chart, as appropriate.

Response: MassDEP has updated the chart for the noted sites.

Sierra Club's Comments

7. Comment: The Sierra Club is deeply concerned by the monitored ozone levels at the recently added Fall River monitor. For the past two years, the newly added Fall River monitor has registered 4th highest 8-hour ozone concentrations in excess of EPA's 2008 National Ambient Air Quality Standard (NAAQS) of 75 parts per billion. This is particularly concerning in light of recent statements by the Clean Air Scientific Advisory Committee (CASAC) confirming that the current standard is insufficiently health protective and should be lowered to 60 parts per billion in order to protect human health with an adequate margin of safety. MassDEP should closely track the monitored data from Fall River through the 2014 ozone season because a nonattainment designation will be appropriate if the 2014 ozone season produces four days with 8-hour concentrations above 75 ppb.

Response: MassDEP is closely tracking the monitored ozone levels at the Fall River monitor, as well as at other monitors throughout the state. The higher ozone levels that have been monitored in Fall River are indicative of the continuing problem of ozone transport that affects the Eastern United States. Not only is ozone transported into Eastern U.S. from Mid-west and Southeastern states, but it also is transported up the eastern seaboard along the I-95 corridor. Similar higher ozone levels also have been monitored along the coast of Rhode Island and Connecticut.

8. Comment: In addition, Sierra Club reiterates its comment from 2012 and 2013 that MassDEP must indicate in its air monitoring network plan which monitors are the required ozone SLAMS monitor and ensure that these monitors are operated during the entire ozone monitoring season. Massachusetts' ozone monitoring season is from April to September. 40 C.F.R. Part 58, App. D, Table D-3 (2011). Required ozone SLAMS sites must be operated during the entire ozone season. 40 C.F.R. Part 58, App. D, § 4.1(i) (2011). Any deviation from this requirement must be approved by the EPA Regional Administrator and documented within the annual monitoring network plan. *Id.* The draft plan and attachments do not specify which monitors are designated ozone SLAMS sites or specify the duration of the monitoring at these sites. Absent this information, it is not possible to determine whether MassDEP is complying with the requirements of 40 C.F.R. Part 58 App. D.

Response: MassDEP operates 17 ozone monitors throughout the state, all of which are designated State and Local Air Monitoring Stations (SLAMS). MassDEP operates each of these monitors during the entire ozone monitoring season, except that MassDEP cannot always access the Adams site (25-023-4002) at the summit of Mt. Greylock due to summit weather conditions. As noted in the Network Plan, MassDEP plans to move the site to a lower elevation site that can better characterize population exposures to ozone concentrations in Berkshire County. Furthermore, MassDEP routinely meets EPA's data completeness requirements for its ozone monitoring sites, with rare exception, although there are some circumstances that are beyond MassDEP's control that can affect data completeness (for instance, if a monitoring station must be moved at the request of the property owner).